

REMARKS

With the cancellation of claim 23, claims 14 to 22 and 24 to 27 are pending in the present application. Applicants respectfully submit that the pending claims are patentable for the following reasons and reconsideration is respectfully requested.

Applicants thank the Examiner for acknowledging the claim for foreign priority and that copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau under PCT Rule 17.2(a).

Applicants thank the Examiner for acknowledging the receipt of the information disclosure statement, PTO 1449 and references cited therein.

I. Rejection of Claim 23 Under 35 U.S.C. § 112, First Paragraph

Claim 23 is rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. The Office Action states that the claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors at the time of the application filing had possession of the claimed invention. The Office Action states that the nozzle body is in the shape of a hollow cylinder and is made up of nozzle body inserts. The Office Action states that the specification is silent to the embodiment where the nozzle body inserts have a rectangular cross-section and it appears that with such a limitation, the nozzle body could not be in the shape of a hollow cylinder as disclosed.

Applicants have respectively canceled claim 23. Applicants respectfully submit that through the cancellation of claim 23, the rejection under 35 U.S.C. § 112, first paragraph has been rendered moot. Applicants respectfully request withdrawal of the rejection to claim 23.

II. Rejection of Claims 14 to 18, 22 and 25 Under 35 U.S.C. §102(b)

Claims 14 to 18, 22 and 25 were rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent Number 3,737,105 ("Arnold et al."). Applicants respectfully submit that Arnold et al. do not anticipate claims 14 to 18, 22 and 25 for the following reasons.

As regards this anticipation rejection, to reject a claim as anticipated the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (See, Scrips Clinic & Research Foundation v. Genentech, Inc., 18 U.S.P.Q.2d 101, 1010 (Fed. Cir. 1991)).

Amended claim 14 relates to an atomizer nozzle for a fuel, comprising: a modular system of a nozzle body formed as a hollow cylinder and at least one disk-shaped nozzle body insert; the nozzle body having spray-discharge orifices that discharge into a metering space, and having at least one metering aperture, the spray-discharge orifices being situated at elevation levels so as to have a radial directional component with respect to a center line of the nozzle body, each elevation level having at least one spray-discharge orifice, and the at least one spray-discharge orifice of at least one elevation level being directly connected to at least one channel of the at least one disk-shaped nozzle-body insert that has at least one flow-through opening; and wherein the at least one nozzle body insert has an indentation on its outer diameter forming a section of reduced wall thickness. Support for the amendment to claim 14 is found on page 6, line 19 as well as page 8, lines 2 and 3 and lines 18 and 19.

Applicants respectfully submit that the cited Arnold reference discloses a nozzle for producing a pair of axially spaced radial sprays comprising a pair of concentric pipes, each having a deflector disk with its undersurface shaped to deflect a cylindrical jet of liquid from an axial to radial direction and to discharge the same as a radial spray. Applicants respectfully submit that the Arnold reference does not disclose or suggest a modular system of a nozzle body formed as a hollow cylinder and at least one nozzle body insert. Applicants furthermore respectfully submit that the Arnold reference does not disclose or suggest at least one nozzle body insert that is disk shaped.

Moreover, the Arnold reference does not disclose or suggest at least one nozzle body insert that has an indentation on its outer diameter forming a section of reduced wall thickness.

As the Arnold et al. reference does not disclose or suggest these features of amended claim 14, applicants respectfully submit that Arnold et al. do not anticipate claim 14.

Claims 15 to 18, 22 and 25 depend from claim 14 and therefore include all of the features of claim 14. Applicants respectfully submit that claims 15 to 18, 22 and 25 are patentable for at least the reasons provided above. Applicants respectfully request withdrawal of the rejection to claims 15 to 18, 22 and 25.

III. Rejection of Claims 14 to 17, 21, 26 and 27 Under 35 U.S.C. §102(b)

Claims 14 to 17, 21 and 27 were rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent Number 2,701,738 ("Cerasi"). Applicants respectfully submit that Cerasi does not anticipate claims 14 to 17, 21, 26 and 27 for the following reasons.

The recitation of amended claim 14 provided above is applicable to this rejection.

Applicants respectfully submit that the Cerarsi reference provides a sprinkler head that is comprised of a shaft of uniform diameter that is threaded uniformly throughout its length. In the cited reference, the shaft is fluted along its length with a plurality of channels extending longitudinally from the shaft. A lower cylindrical cup shaped member and intermediate cup shaped members are screwed onto the shaft. The cited reference, however, does not provide a modular system of a hollow cylinder and a nozzle body as described in the claims. Applicants respectfully submit that there is no indentation provided on the outer diameter of any components namely of the cup shaped members.

As the cited reference does not disclose or suggest the features of amended claim 14, applicants respectfully submit that claim 14 is not anticipated by the cited reference.

Claims 15 to 17, 21, 26 and 27 depend from claim 14 and therefore include all of the features of claim 14. Applicants respectfully submit that claims 15 to 17, 21, 26 and 27 are patentable for at least the reasons provided above. Applicants respectfully request withdrawal of the rejection to claims 15 to 17, 21, 26 and 27.

IV. Rejection of Claims 19 and 24 Under 35 U.S.C. §103(a)

Claims 19 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold et al. Applicants respectfully submit that Arnold et al. do not render obvious claims 19 and 24 for the following reasons.

Claims 19 and 24 depend from claim 14 and therefore include all of the features of claim 14.

As disclosed above, the Arnold et al. reference does not disclose or even suggest the features of amended claim 14 including the features of a modular system of a nozzle body formed as a hollow cylinder and at least one nozzle body insert. The Arnold reference furthermore does not disclose at least one nozzle body insert that is disk shaped. Moreover, the Arnold reference does not disclose or suggest at least one nozzle body insert that has an indentation on its outer diameter forming a section of reduced wall thickness.

In rejecting a claim under 35 U.S.C. §103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 23 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art references must teach or suggest all of the claim of limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). For the reasons presented above, applicant respectfully submits that the cited references do not disclose or suggest the features of the rejected claim(s).

It is respectfully submitted that the cases of *In re Fine*, supra, and *In re Jones*, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), make plain that the Office Action's generalized assertions that it would have been obvious to modify or combine the references do not properly support a 35 U.S.C. §103 rejection. It is respectfully submitted that the Office Action reflects a subjective "obvious to try" standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the references relied upon. In particular, the Court in the case of *In re Fine* stated that:

The PTO has the burden under §103 to establish a prima facie case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. This it has not done....

Instead, the examiner relies on hindsight in reaching his obviousness determination.... One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

In re Fine, 5 U.S.P.Q.2d at 1598 to 1600 (citations omitted; italics in original; emphasis added). Likewise, the Court in the case of *In re Jones* stated that:

Before the PTO may combine the disclosures of two or more prior art references in order to establish a prima facie obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art....

Conspicuously missing from this record is any evidence, other than the PTO's speculation (if they'd be called evidence) that one of ordinary skill... would have been motivated to make the modifications necessary to arrive at the claimed [invention].

In re Jones, 21 U.S.P.Q.2d at 1943, 1944(citations omitted; italics in original).

This is exactly the case here since it is believed and respectfully submitted that the present Office Action offers no evidence whatsoever, but only conclusory hindsight, reconstruction, and speculation, which these cases have indicated does not constitute evidence that will support a proper obviousness finding. Unsupported assertions are not evidence as to why a person having ordinary skill in the art would be motivated to modify or combine references to provide the claimed subject matter of the claims to address the problems met there by. Accordingly, the Office must provide proper evidence of a motivation for modifying or combining the references to provide the claimed subject matter.

More recently, the Federal Circuit in the case of *In re Kotzab* has made plain that even if a claim concerns a "technologically simple concept"--which is not the case here--there still must be some finding as to the "specific understanding or principle within the knowledge of a skilled artisan" that would motivate a person having no knowledge of the claim subject matter to "make the combination in the matter claimed," stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the matter claimed. In light of our holding of the absence of a motivation to combine the teachings in *Evans*, we conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting [the] claims... under 35 U.S.C. §103(a) over *Evans*. In *re Kotzab*, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000). Again, it is believed that there have been no such findings.

Applicants furthermore respectfully submit that the disclosed reference does not provide for the advantages of a modular construction atomizer nozzle, the shape of the fuel cloud and the respective amounts of fuel thereby injected that can be changed rapidly and easily in order to optimize the atomization operation. In particular, the cited reference does not disclose the number of spray discharge orifices at an elevation level and the spacing of the elevation levels that can be rapidly changed. This configuration allows

considerable cost reductions in adapting to the specific metering space and the conditions prevailing in it. The shape of the nozzle body and the nozzle body inserts, namely the hollow cylinder and the disc shaped inserts, can be manufactured easily, precisely and therefore inexpensively. The Arnold reference does not provide these advantages. Finally, the Arnold reference does not provide an indentation on the outer circumference of the inserts in the form of a section of reduced wall thickness to provide for heat insulation.

Applicants respectfully submit that claims 19 and 24 are patentable for the above reasons.

V. Allowable Claim 20

Claim 20 is objected to as being dependent upon a rejected based claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants have amended claim 20 to include the limitations of the base claim and any intervening claims. Applicants respectfully request withdrawal of the objection to the claims.

VI. Conclusion

In view of the foregoing, it is respectfully submitted that all pending claims of the present application are now in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,
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